Beam Separators

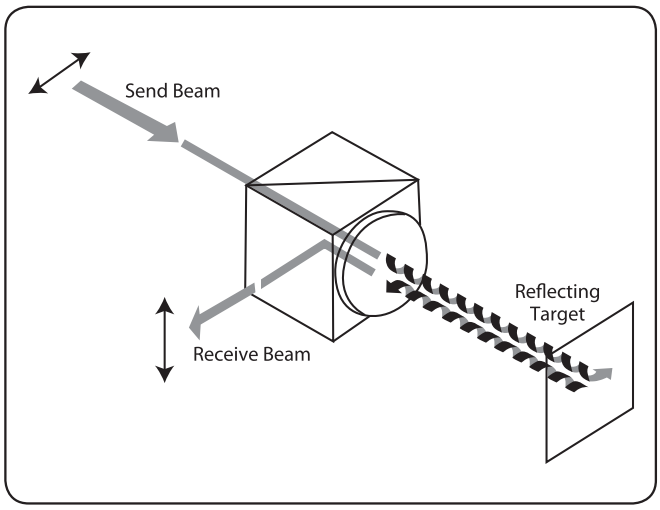

Fig. 1-27 Beam Separator function

Key Benefits

- **High isolation**
- **Large diameters available**
- **Low transmitted wavefront distortion**

Meadowlark Optics Beam Separators are specially designed for laser line applications. Assembly consists of a true zero-order quarter-wave retarder (page 30-31) oriented with its fast axis at 45° to the transmission axis of a Laser Line Beamsplitting Polarizer (page 13-14). The transmitted beam is circularly polarized, regardless of the input beam polarization state.

Our true zero-order Precision Retarders are one quarter-wave within ± λ/350 waves. Aligning the fast axis to within 1° ensures greater than 99.8% source isolation from specular back reflections.

SPECIFICATIONS	
Material	BK 7 Grade A, fine annealed
Transmitted Wavefront Distortion (at 632.8 nm)	≤ λ/5
Clear Aperture	Central 80% diameter
Reflectance (per surface)	≤ 0.5% at normal incidence
Surface Quality	40-20 scratch and dig
Beam Deviation	≤ 3 arc min
Acceptance Angle	± 2°
Standard Wavelengths	532, 632.8, 670, 780, 850, 1064 and 1550 nm
Dimensional Tolerance	±0.020 in.
Temperature Range	-20° C to +50° C
Recommended Safe Operating Limit	500 W/cm², CW 300 mJ/cm², 10 ns, visible 200 mJ/cm², 10 ns, 1064 nm

ORDERING INFORMATION

Cube Dimensions (in.)	*Clear Aperture (in.)*	*Part Number*
0.50	0.40	BS - 050 - λ
1.00	0.80	BS - 100 - λ

Please substitute your wavelength in nanometers for λ.

Custom sizes are available. Custom wavelengths over 400-1600 nm are available. Please contact our Sales Department to obtain a custom quote.